

REMARKS

Reconsideration of this application is respectfully requested. Claims 1-24 are pending in the application with Claims 9-17, 21 and 24 being withdrawn from consideration as being drawn to a non-elected species. Claims 9-17, 21 and 24 are cancelled without prejudice or disclaimer to the subject matter contained therein. New Claims 25-34 are added. Claims 1-6 and 18-20 stand rejected under 35 U.S.C. §103(a) and Claims 7,8, 22 and 23 are objected to as being dependent on a rejected base claim but would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims.

Rejection Under 35 U.S.C. §103(a)

In the Office Action, Claims 1-6 and 18-20 stand rejected under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 4,701,510 to Minchak, et. al. alone or in view of U.S. Patent No. 5,342,909 to Grubbs et. al. Specifically, the Examiner states that Minchak exemplifies articles prepared from substantially the same composition, i.e., molded plaques prepared from a composition comprising a polymer of methyltetracyclododecene (MTD) and polydimethylsiloxane. Alternatively, the Examiner states that the use of Ru or Os carbene catalyst as the metathesis catalyst of Minchak would have been obvious since (1) Minchak broadly contemplates the use of any metathesis catalyst system or conduct polymerization of cycloolefin monomers; and (2) Grubbs teaches the utility of carbene compounds of Ru and Os in catalyzing metathesis polymerization of strained cyclic olefins such as dicyclopentadiene. Applicants respectfully traverse this basis for rejection.

Applicants respectfully submit that the polydimethylsiloxane was used in Minchak as a surface lubricant, protectant or possibly a mold releasing agent. In fact, Minchak states that the "[p]olydimethylsiloxane used in the examples functioned to protect the surface of the plaques that were produced." See Col. 9, lines 56-58. Accordingly, there is no teaching or suggestion in Minchak to use the polydimethylsiloxane as a toughness and/or hardness modulator.

In addition, Applicants respectfully disagree with Examiner's contention that Minchak's Examples 1-6 disclose use of polydimethylsiloxane in amounts equating to 0.1% by weight of the olefin monomer, as claimed in the present invention. The amount of olefin monomer (48.5 g) cited by the examiner is not the total amount of olefin monomer present in Minchak's examples, as some of the other reagents (e.g., the propanol-1 solution, the cocatalyst solution, the molybdate catalyst solution, and any olefin comonomers or crosslinkers) contribute additional olefin monomer to the composition. Accordingly, Applicants submit that the percent of polydimethylsiloxane is less than the 0.1% by weight of the total amount of olefin monomer as presently claimed.

Second, Applicants respectfully disagree with Examiner's contention that a polyolefin prepared using a Ru or Os carbene catalyst does not differ substantially from polycycloolefin prepared using Minchak's molybdenum or tungsten catalyst. As noted by the Examiner in the Office Action, the Ru and Os catalyst complexes disclosed in Grubbs are unique among metathesis catalysts in that the polymerization reaction may also be conducted in protic solvents. Other advantages include that the Ru and Os carbene compounds provide high catalytic activity and allows for the control of the rate of initiation, extent of initiation, and the amount of catalyst. Moreover, the activity level, solubility and stability of these

complexes are modifiable. Finally, as the Examiner notes, these modifications enable ease of recovery of the catalyst. See Grubbs, Col. 10, lines 21-38.

In addition, properties and characteristics of the resulting polymer, for example, poly-DCPD, are largely dependent upon the composition of the catalyst. For example, it has been shown that poly-DCPD produced from a tungsten catalyst complex is highly cross-linked, but with addition derived linkages rather than metathesis derived linkages. It has also been shown that that different kinds of poly-DCPD can be obtained by varying the composition of the polymerization catalyst. See, e.g., Davidson, T. A., et. al., "Polymerization of Dicyclopentadiene: A Tale of Two Mechanisms," *Macromolecules* 1996, **29**, 786-788.

Finally, Examiner states that the use of a Ru or Os carbene catalyst as the metathesis catalyst of Minchak would have been obvious since Minchak broadly contemplates the use of any metathesis catalyst system to conduct polymerization of cycloolefin monomers and Grubbs teaches the utility of carbene compounds of Ru and Os in metathesis polymerization of cycloolefins including dicyclopentadiene. Initially, Applicants refer Examiner to Col. 6, lines 38-39 of Minchak where the systems are defined as including a catalyst and a cocatalyst, in contrast to the present invention. Nonetheless, Applicants respectfully maintain that even if one skilled in the art combined the catalyst complex cited in Grubbs with the disclosure of Minchak, the present invention is not obvious due to toughness and/or hardness modifier element of Claim 1. As stated above, Minchak discloses the use of polydimethylsiloxane as a surface protectant of the plaques that were produced. There is no suggestion nor teaching in Minchak either alone or combined with Grubbs that the polydimethylsiloxane is a toughness and/or hardness modifier.

Accordingly, Applicants respectfully submit that in light these remarks, the Examiner's rejection of Claims 1-6 and 18-20 is overcome.

In view of the foregoing, Applicants respectfully request that the rejection under §103(a) be withdrawn, and that Claims 1-6 and 18-20 be reconsidered.

All objections and rejections having been addressed by way of amendment and the remarks set forth above, reconsideration and allowance of this application is respectfully requested. Applicants submit that the present application is in condition for allowance and a notice to that effect is earnestly solicited. The Examiner is invited to telephone the undersigned representative if it is believed that an interview may be useful for any reason.

As September 9, 2001, was a Sunday, this amendment is being timely filed on September 10, 2001, accompanied by a petition for a three-month extension of time. Please charge the \$485.00 for the extension fee (\$445.00) and additional claims (\$40.00) and any additional fees or credit any overpayment to our Deposit Account No. 03-3975.

Dated: September 10, 2001

Respectfully submitted,



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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 9-17, 21 and 24 are cancelled.

New Claims 25-34 are added.

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